

CLAIMS

1. A string of decorative lights comprising

• a power supply having an input adapted for connection to a standard residential electrical power outlet, said power supply including circuitry for converting the standard residential voltage to a low-voltage output, the input connected through a fuse to a diode bridge,

• a pair of conductors connected to the output of said power supply for supplying said low-voltage output to multiple decorative lights, and

• multiple lights connected to said conductors along the lengths thereof, each of said lights, or groups of said lights, being connected in parallel across said conductors.

2. A string of decorative lights as set forth in claim 1 wherein each of said lights is about a half-watt bulb.

3. A string of decorative lights as set forth in claim 1 wherein each of said lights requires a voltage or about 6 volts or less.

4. A string of decorative lights as set forth in claim 1 wherein said lights are connected in parallel across said conductors in parallel groups of two to five lights per group, the lights within each group being connected in series.

5. A string of decorative lights as set forth in claim 1 wherein said standard residential voltage is 120 volts and approximately 100 6-volt lights are connected to said conductors.

6. A string of decorative lights as set forth in claim 1 wherein said low-voltage output is DC.

7. A string of decorative lights as set forth in claim 1 wherein said low-voltage output is AC.

8. A string of decorative lights as set forth in claim 1 wherein said low-voltage output is less than about 30 volts.

5 9. A string of decorative lights as set forth in claim 1 wherein said power supply comprises an electronic transformer.

10. A string of decorative lights as set forth in claim 1 wherein said power supply comprises a switching power supply.

10 11. A string of decorative lights as set forth in claim 1 wherein said power supply converts the standard residential frequency to a higher frequency output.

12. A string of decorative lights as set forth in claim 11 wherein said higher frequency is in the range from about 10 KHz to about 150 KHz.

15 13. A string of decorative lights as set forth in claim 1 wherein said conductors are connected to a fixed number of said lights so as to provide a fixed load on said power supply.

20 14. A string of decorative lights as set forth in claim 1 wherein each of said lights includes means for shunting the light in response to a failure of the light.

15. A decorative lighting system, said system comprising

- a power supply having an input adapted for connection to a standard residential electrical power outlet, said power supply including circuitry for converting the standard residential voltage to a low-voltage output, the input connected through a fuse to a diode bridge,
- a plurality of pairs of conductors connected to the output of said power supply for supplying said low-voltage output to multiple sets of decorative lights, and
- multiple lights connected to each pair of said conductors along the lengths thereof, each of said lights, or groups of said lights, being connected in parallel across each of said pairs of conductors.

25 30

16. A decorative lighting system as set forth in claim 15 wherein each of said lights is about a half-watt bulb.

17. A decorative lighting system as set forth in claim 15 wherein each of said lights
5 requires a voltage or about 6 volts or less.

18. A decorative lighting system as set forth in claim 15 wherein each of said pairs of conductors has multiple groups of said lights connected in parallel across the conductor pair, each of said parallel groups including two to five lights connected in series within the group.

19. A decorative lighting system as set forth in claim 15 wherein said standard residential voltage is 120 volts and approximately 100 6-volt lights are connected to each of said pairs of conductors.

20. A decorative lighting system as set forth in claim 15 wherein said low-voltage output is DC.

21. A decorative lighting system as set forth in claim 15 wherein said low-voltage output is AC.

22. A decorative lighting system as set forth in claim 15 wherein said low-voltage output is less than about 30 volts.

23. A decorative lighting system as set forth in claim 15 wherein said power supply
25 comprises an electronic transformer.

24. A decorative lighting system as set forth in claim 15 wherein said power supply comprises a switching power supply.

25. A decorative lighting system as set forth in claim 15 wherein said power supply
30 converts the standard residential frequency to a higher frequency output.

26. A decorative lighting system as set forth in claim 25 wherein said higher frequency is in the range from about 10 KHz to about 150 KHz.

27. A decorative lighting system as set forth in claim 15 wherein each of said pairs of
5 conductors is connected to a fixed number of said lights so as to provide a fixed load on said power supply.

28. A decorative lighting system as set forth in claim 15 wherein each of said lights includes means for shunting the light in response to a failure of the light.

10

29. A method of powering a string of decorative lights, said method comprising

- converting a standard residential electrical voltage to a low-voltage, using a power supply having an input coupled through a fuse to a diode bridge, and
- supplying said low-voltage to a pair of parallel conductors having multiple
15 decorative lights connected to said conductors along the lengths thereof, each of said lights, or groups of said lights, being connected in parallel across said conductors.

15

30. A method of powering a string of decorative lights as set forth in claim 29 wherein each of said lights is about a half-watt bulb.

20

31. A method of powering a string of decorative lights as set forth in claim 29 wherein each of said lights requires a voltage or about 6 volts or less.

32. A method of powering a string of decorative lights as set forth in claim 29
25 wherein said lights are connected in parallel across said conductors in parallel groups of two to five lights per group.

33. A method of powering a string of decorative lights as set forth in claim 29
wherein said standard residential voltage is 120 volts and approximately 100 6-volt lights are
30 connected to said conductors.

34. A method of powering a string of decorative lights as set forth in claim 29 wherein said low-voltage output is DC.

5 35. A method of powering a string of decorative lights as set forth in claim 29 wherein said low-voltage output is AC.

36. A method of powering a string of decorative lights as set forth in claim 29 wherein said low-voltage output is less than about 30 volts.

10 37. A method of powering a string of decorative lights as set forth in claim 29 wherein an electronic transformer is used in the conversion of said standard residential electrical voltage to a low voltage.

15 38. A method of powering a string of decorative lights as set forth in claim 29 wherein a switching power supply is used in the conversion of said standard residential electrical voltage to a low voltage.

20 39. A method of powering a string of decorative lights as set forth in claim 29 wherein the standard residential frequency is converted to a higher frequency output.

40. A method of powering a string of decorative lights as set forth in claim 39 wherein said higher frequency is in the range from about 10 KHz to about 150 KHz.

25 41. A method of powering a string of decorative lights as set forth in claim 29 wherein a fixed load is maintained on said conductors by limiting the number of lights connected to said conductors to a fixed number.